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almost entirely by the chase. The proverbial stature of the Patagonians was so far confirmed by the observation that the Tehuelches give an average height of five feet ten inches, with a corresponding breadth of shoulders and muscular development; the Manzaneros come next in order of height and strength, the Pampas being the smallest of the three races. The Manzaneros are remarkable for their fair complexions, while the Tehuelches are, literally speaking, Red Indians. Lieut. Musters had visited all the various tribes of those races, from the Rio Negro to the Straits of Magellan, for political purposes, and he estimated the population, which he described as diminishing, as follows:—Tehuelches 1,400 to 1,500, Pampas 600, and the remainder Manzaneros, amounting in all to about 3,000.—*Nature.*

## MICROSCOPY.

THE FOOT OF DYTISCUS AND THE FLY.—Mr. B. T. Lowne (in a paper read before the Royal Microscopical Society, London, May 3, 1871), gives a very interesting and conclusive study of this familiar and interesting object. The tarsi of the anterior feet of the males are furnished with some two hundred sucker-like disks, one of which is about one-sixteenth of an inch wide, another a thirty-second of an inch, and the rest one hundred and fiftieth of an inch each. These disks, more properly called pulvilli, are evidently designed for purposes of adhesion, and being believed by the majority of persons to act by atmospheric pressure, are popularly called suckers. They are evidently comparable to the pulvilli of many insects. The tarsi of some diamond beetles are furnished with tubular, bulbous hairs whose bases open into a gland in the tarsus, a viscid fluid from which fills the hair and exudes through the walls of the bulb. In flies the same structure is found, except that the minute organs are furnished, instead of bulbs, with flattened disks, which, by bearing an equal strain support the individual, though they are easily removed from their attachment by the insect, which separates one row at a time. In the male Dytiscus we observe an extraordinary modification of the same organs; the tarsus being mainly occupied by a large, glandular sac, into which open, by apertures visible under the microscope, the columella of the so-called suckers. These "suckers" are disk-bearing hairs, greatly modified in size but little in structure, and analogous to some caterpillars' hairs which have poison glands at the base. A viscid secretion from the sac fills the hair and exudes from its surface. The escape of this fluid when not in use is perhaps prevented by a change in shape of the organs when in a state of rest.

As announced by Blackwall in 1816, a viscid fluid, not atmospheric pressure, is the cause of adhesion in such cases. The theory of suction or atmospheric pressure, still popular, is disproved by the facts that a Dytiscus, chloroformed to prevent a voluntary relinquishment of his hold, still adheres to the surface of glass in a receiver exhausted of air; that every foot-step leaves a microscopic print upon the surface of a clean glass slide; and that the suckers in action are applied evenly to the surface, or are partially filled with water, so that any attempt at suction would cause, and would be defeated by, a flow of the viscid fluid from the sac.

The tenacious fluid which is the means of adhesion, coagulates readily, does not mix easily with water, and is extremely insoluble. It sometimes hardens so thoroughly as to glue the disks inseparably to their object of attachment, the insect escaping only at the expense of mutilation, somewhat as flies in autumn often become so firmly adherent to the window-panes that the enfeebled insects are unable to escape.—R. H. W.

# NOTES.

At a meeting of the Faculty of the Museum of Comparative Zoology, held May 6, 1871, the Humboldt Scholarship was awarded to J. A. Allen, in consideration of his paper upon the "Mammals and Winter Birds of East Florida," and the proceeds of the Humboldt Fund for one year, granted to him in aid of his exploration of the Fauna of the Rocky Mountains.

The Albany Institute and the Troy Scientific Association enjoyed a field meeting of rare interest at North Adams on the 27th of May, visiting the Natural Bridge and the Hoosac Tunnel, and receiving throughout the day an enthusiastic reception. They want to go to North Adams again.